

**ABSTRACT**

A method for formulating a glucose oxidase enzyme with peroxide resistant properties and a glucose oxidase enzyme formulated by the method. The enzyme formulation method results in a glucose oxidase enzyme with improve resistance to peroxide, and therefore, with improved resistance to oxidative inactivation. The method employs directed evolution techniques to evolve glucose oxidase to achieve the desirable properties. A peroxide resistant glucose oxidase may improve the longevity of, for example, glucose biosensors in which a peroxide resistant glucose oxidase may be placed.